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Notice of Allowability

Application No.

09/597,523

Examiner

Ashok B. Patel

Applicant(s)

BEATTY III ET AL.

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/11/04.
2. ☒ The allowed claim(s) is/are 1-4,6-10,13 and 19-23.
3. ☒ The drawings filed on 20 June 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

1. Claims 1-4, 6-10, 13, 19, 20, 21, 22, and 23 are allowed.

Claims 11, 15 and 17 have been cancelled.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter W. Peterson on 07/29/2004.

3. The application has been amended as follows:

In the claims:

- I. Claims 11, 15 and 17 have been cancelled.
- II. Claim 1, (currently amended) A computer program storage device containing a computer-readable program having a memory structure for parallel computing, the parallel computing memory structure comprising:
a first level of hierarchy comprising a plane, the plane containing a
thread which represents an independent flow of control managed by a
program structure, a heap portion for data structure, a stack portion for
function arguments, and local variables and global data accessible by any
part of said program structure; and
a second level of hierarchy comprising a space, the space containing

two or more of said planes, the planes in the space containing said program structure, the space further containing common data accessible by said program structure between each of the planes-, the program structure further comprising a library of programs and including a function table for each space, the function table being adapted to exchange services with the library in each space.

Claim 6, (currently amended) A computer program storage device containing a computer-readable program having a memory structure for parallel computing, the parallel computing memory structure comprising;

a first level of hierarchy comprising a plane, the plane containing a thread which represents an independent flow of control managed by a program structure, a heap portion for data structure, a stack portion for function arguments, and local variables and global data accessible by any part of said program structure;

a second level, of hierarchy comprising a space, the space containing two or more of said planes, the planes in the space containing said program structure, the space further containing common data accessible by said program structure between each of the planes; and

a third level of hierarchy comprising two or more of said spaces-, the spaces containing the same or different program structures having a library of programs, and common data accessible by the program structure between each of the spaces, the program structure further including a function table

for each space, the function table being adapted to exchange services with the library in each space.

Claim 9, (currently amended) A computer program product for parallel computing comprising a computer usable medium having computer readable code embodied in said medium, said computer code defining parallel computing computer memory structure including:

a first level of hierarchy comprising a plane, the plane containing a thread

which represents an independent flow of control managed by a program structure, a heap portion for data structure, a stack portion for function arguments, and local variables and global data accessible by any part of said program structure; and

a second level of hierarchy comprising a space, the space containing

two or more of said planes, the planes in the space containing said program structure, the space further containing common data accessible by said program structure between each of the planes-, the program structure further comprising a library of programs and including a function table for each space, the function table being adapted to exchange services with the library in each space.

III. Claim 13, lines 1, replace "11" with --20--.

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance:

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Applicant's arguments that Arimilli does not teach the claimed limitations are persuasive with respect to the program structure comprising a library of programs and including a function table for each space, the function table being adapted to exchange services with the library in each space. None of the prior arts of record teach or suggest the claimed limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

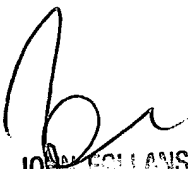
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (703) 305-2655. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp


JOHN HOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100